Amendments to the Claims

Please amend the claims, without prejudice, as follows, wherein underlining identifies added material and strikethroughs identify deleted material:

Listing of Claims:

1-9. (Cancelled)

10. (Currently Amended). ~~The navigational control system of claim 9~~ A navigational control system for directly altering movement activity of a robotic device operating in a defined working area, comprising:

a transmitting subsystem integrated in combination with the robotic device, the transmitting subsystem comprising means for emitting a number of directed beams to cover the defined working area, each directed beam having a predetermined emission pattern; and

a receiving subsystem functioning as a base station that includes a navigation control algorithm that defines a predetermined triggering event for the navigational control system and a set of detection units positioned within the defined working area, the detection units being positioned in a known aspectual relationship with respect to one another, the set of detection units being configured and operative to detect one or more of the directed beams emitted by the transmitting subsystem;

wherein the receiving subsystem is configured and operative to process the one or more detected directed beams under the control of the navigational control algorithm to determine whether the predetermined triggering event has occurred, and, if the predetermined triggering event has occurred, to transmit a control signal to the robotic device;

wherein reception of the control signal by the robotic device causes the robotic device to implement a prescribed conduct that alters the movement activity of the robotic device;

wherein the emitting means is configured and operative to emit the directed beams at a common operating frequency;

wherein the transmitting subsystem and the receiving subsystem are synchronized for operation wherein a travel vector for the robotic device is determinable;

wherein the transmitting subsystem is operative to cycle the emitting means on for a predetermined synchronization period and then cycle the emitting means off, initialize a timing sequence when the emitting means is cycled off, and then sequentially cycle the emitting means on and off so that the directed beams achieve peak signal strengths at different times with respect to the initialized timing sequence; and

wherein the receiving subsystem is operative to detect one or more of the directed beams emitted by the emitting means during the predetermined synchronization period to identify the predetermined synchronization period; initialize the timing sequence to synchronize operations with the transmitting subsystem; identify a peak signal strength for the detected directed beams and a time of detection of the peak signal strength with respect to the timing sequence initialization; correlate the time of detection of the peak signal strength with the different times at which the directed beams achieve peak signal strength to identify the directed beam having the peak signal strength; and determine the travel vector of the robotic device based upon the known configuration and operation of the emitting means and the identified directed beam.

11. (Currently Amended) ~~The navigational control system of claim 9~~ A navigational control system for directly altering movement activity of a robotic device operating in a defined working area, comprising:

a transmitting subsystem integrated in combination with the robotic device, the transmitting subsystem comprising means for emitting a number of directed beams to cover the defined working area, each directed beam having a predetermined emission pattern; and

a receiving subsystem functioning as a base station that includes a navigation control algorithm that defines a predetermined triggering event for the navigational control system and a set of detection units positioned within the defined working area, the detection units being positioned in a known aspectual relationship with respect to one

another, the set of detection units being configured and operative to detect one or more of the directed beams emitted by the transmitting subsystem;

wherein the receiving subsystem is configured and operative to process the one or more detected directed beams under the control of the navigational control algorithm to determine whether the predetermined triggering event has occurred, and, if the predetermined triggering event has occurred, to transmit a control signal to the robotic device;

wherein reception of the control signal by the robotic device causes the robotic device to implement a prescribed conduct that alters the movement activity of the robotic device;

wherein the emitting means is configured and operative to emit the directed beams at a common operating frequency;

wherein the transmitting subsystem and the receiving subsystem are synchronized for operation wherein a travel vector for the robotic device is determinable; and

wherein the transmitting subsystem is operative to cycle the emitting means on for a predetermined synchronization period and then cycle the emitting means off, initialize a timing sequence when the emitting means is cycled off, and then sequentially cycle the emitting means on and off so that the directed beams have a pulsed waveform at different times with respect to the initialized timing sequence; and

wherein the receiving subsystem is operative to detect one or more of the directed beams emitted by the emitting means during the predetermined synchronization period to identify the predetermined synchronization period; initialize the timing sequence to synchronize operations with the transmitting subsystem; identify detected pulsed waveforms having a highest and next highest signal strength and times of detection of the highest and next highest signal strengths in terms of the timing sequence initialization; correlate the times of detection of the highest and next highest signal strengths with the different times of emission of the directed beams to identify the directed beams having the highest and next highest signal strengths; compute an amplitude ratio for the identified directed beams using the highest and next highest signal strengths; and use the computed amplitude ratio as a pointer to a look-up table to determine the travel vector of

the robotic device based upon the known configuration and operation of the emitting means and the identified directed beams.

12-15. (Cancelled)

16. (Currently Amended) ~~The navigational control system of claim 1~~ A navigational control system for directly altering movement activity of a robotic device operating in a defined working area, comprising:

a transmitting subsystem integrated in combination with the robotic device, the transmitting subsystem comprising means for emitting a number of directed beams to cover the defined working area, each directed beam having a predetermined emission pattern; and

a receiving subsystem functioning as a base station that includes a navigation control algorithm that defines a predetermined triggering event for the navigational control system and a set of detection units positioned within the defined working area, the detection units being positioned in a known aspectual relationship with respect to one another, the set of detection units being configured and operative to detect one or more of the directed beams emitted by the transmitting subsystem;

wherein the receiving subsystem is configured and operative to process the one or more detected directed beams under the control of the navigational control algorithm to determine whether the predetermined triggering event has occurred, and, if the predetermined triggering event has occurred, to transmit a control signal to the robotic device;

wherein reception of the control signal by the robotic device causes the robotic device to implement a prescribed conduct that alters the movement activity of the robotic device;

and wherein the set of detection units comprises a first detection unit, a second detection unit, and a third detection unit, and wherein the first and second detection units are spaced-apart by a known angular distance, the second and third detection units are spaced-apart by a known angular distance, and the first and third detection units are spaced apart by a known angular distance.

17-25. (Cancelled).

26. (Original) The navigational control system of claim 16 wherein the receiving subsystem is configured and operative to

segment the defined working area into a plurality of cells that define a grid map of the defined working area referenced to the receiving subsystem;

process signals representative of detection of the one or more directed beams over a time interval to determine a set of instantaneous positions representing the movement activity of the robotic device;

correlate the set of instantaneous positions with the grid map to identify a set of cells from the grid map corresponding to the set of instantaneous positions wherein the set of cells is the position history; and

implement the navigation control algorithm to evaluate the position history to determine whether the predetermined triggering event has occurred.

27. (Original) The navigational control system of claim 26 wherein each of the instantaneous positions comprises a bearing parameter and a distance parameter of the robotic device with respect to the receiving subsystem.

28-38. (Cancelled).